

Claims:

1. An audio signal supply apparatus for supplying an audio signal to a loudspeaker array constituted by a plurality of loudspeaker units, characterized by comprising:

delay means for performing a delay process for each of audio signals to be supplied to the loudspeaker units in accordance with provided delay control information;

weighting means for weighting each of the audio signal to be supplied to the loudspeaker units in accordance with gain control information that is provided;

storage means for storing a first directivity parameter which sets a directional characteristic for the loudspeaker as a narrow directivity, and a second directivity parameter which sets the directional characteristic for the loudspeaker as a wide directivity;

input means for receiving a selection instruction for the directional characteristic; and

directivity control means for selecting one of the directivity parameters in accordance with the input selection instruction, generate the delay control information and the gain control information based on the selected directivity parameter, and supplying the delay control information and the gain control information to the delay means and the weighting means, respectively.

2. The audio signal supply apparatus according to claim 1, wherein an amount of delays indicated by delay control information generated based on the second directivity parameter is 0 or an equal amount.

3. The audio signal supply apparatus, which supplies an audio signal to a loudspeaker array constituted by a plurality of loudspeaker units, characterized by comprising:

branching means for branching an input audio signal into two or more signals;

first processing means for performing a delay process and/or weighting for each of the signals that is obtained by branching one audio signal and is to be supplied to the loudspeaker units in accordance with first provided directivity control information;

second processing means for performing a delay process and/or weighting for each signal that is obtained by branching one audio signal and that is to be supplied to the loudspeaker units in accordance with second directivity control information that is provided;

directivity control means for generating the first directivity control information and the second directivity control information so that a directional characteristic of the loudspeaker array obtained by the first process differs from a directional characteristic of the loudspeaker array.

obtained by the second process, and supplying the generated information respectively to the first processing means and the second processing means; and

adding means for adding the audio signal processed by the first processing means to the audio signal processed by the second processing means.

4. The audio signal supply apparatus according to claim 3, wherein the directional characteristic of the loudspeaker array obtained through the first process is a narrow directivity, and the directional characteristic of the loudspeaker array obtained through the second process is a wide directivity.

5. The audio signal supply apparatus according to claim 4, wherein an amount of delays obtained at the delay process performed by the second process is 0 or an equal amount.

6. The audio signal supply apparatus according to claim 3, wherein

frequency property correction means for correcting a frequency property for the signals obtained by branching the audio signal is arranged between the branching means and the first process means, and

the first process means processes each of the audio signals for which the frequency property is corrected and which are

to be supplied to the loudspeaker units in accordance with the first provided directivity control information.